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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In application of: Brian Birrenkott et al.	Attorney Docket No. 906346039245
Application No.: 10/712,970	I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to the Board of Patent Appeals and Interferences, United States Patent and Trademark Office, P.O. Box 1450, Alexandria, Virginia 22313-1450. on 12/15/05 Esle G. Bowery
Filed: November 13, 2003	
For: SPRAYING DEVICE WITH INTERCHANGEABLE CARTRIDGE	
Examiner: Kim, Christopher S.	
Art Unit: 3752	
Confirmation No.: 9431	

APPELLANT'S REPLY BRIEF

TABLE OF CONTENTS

I. Introductory Comment

Appellant has contended in its Appeal Brief that the examiner has failed to acknowledge certain claim limitations so that his rejections under sections 102 and 103 are not well taken. After review of the Examiner's Answer, appellant continues to contend that specific claim limitations have been overlooked by the examiner which relate to structural element and to functional attributes of particular structure.

It is well established law that a claim is anticipated only if each and every element is found, either expressly or inherently described in a single prior art reference and the identical invention must be shown. Accordingly, it is appellant's contention that the cited reference to Norman is not anticipatory, since Norman and Norman in combination with other references fails to teach or suggest all of the limitations of the rejected claims. Furthermore, appellant contends that Norman taken singly or in combination fails to be a proper basis for an obviousness rejection.

II. Claims 1-5, 8, 9, 11, 12 and 14-17--REJECTED UNDER 35 U.S.C. 102

Claim limitation - The valve structure has three discrete positions

Claim 1 has two sets of limitations not disclosed in the cited reference to Norman. The first set of limitations in claim 1 concerns a "valve structure...(movable) between at least three discrete positions including a first position enabling the second liquid to flow through the valve structure...which draws the first liquid out of the cartridge and into the valve structure...; a second position enabling the second liquid only to flow through the valve structure and blocking the flow of the first liquid...; and a third position blocking the first and second liquids from flowing through the valve structure...."

The device disclosed in Norman is not the same as the device disclosed in the subject application. The Norman valve 82 is structured to move between two only discrete positions.

The first position is shown in Norman's FIG. 3A where both liquids flow through the valve; the second position is shown in FIG. 3B where only the liquid from the conduits 74, 80 flows through the valve. (Norman, col. 3, line 62 to col. 4, line 4 and col. 4, lines 31 to 45.) There is no teaching in Norman of a third position for the valve 82. A separate trigger mechanism 76 opens and closes the water flow through the conduit 74.

Norman does not teach that his valve 82 blocks water flow, contrary to the examiner's condition that such a third blocking position is inherent because he states that the valve 82 can be stopped between the only two positions Norman teaches. A position between those shown in Norman's FIGS. 3A and 3B is not taught by Norman, and there is no teaching that when in such an "in between" position the valve would block the first and second liquids.

The valve seal 86 disclosed by Norman appears to be insufficient if not totally inoperative. As shown in FIG. 3, the seals 86 will not prevent flow around the valve because in the Norman device, it does not matter if there is flow around the valve 82. Water ends up in the nozzle 104 regardless of whether the water flows through the valve or around the valve. The seals 86 function only to prevent leakage upwardly and downwardly away from the valve as the device is depicted in FIG. 3. Such leakage from the valve region would be undesirable. Norman specifically teaches that the water flowing in conduit 74 (and thereafter in conduit 80) is blocked by the trigger mechanism 76 which operates a seal plunger. (Norman, col. 3, lines 8 to 17.) If the trigger were to open the conduit 74 when the valve 82 is between positions 3A and 3B as contended by the examiner, there would be flow around the valve through the space between the valve and the gun body as shown in FIGS. 3A and 3B. It is noted that the seals 86, FIG. 3, of Norman are incorrectly drawn in FIGS. 3A and 3B as are the seal grooves 84. On the other hand, if the fit between the valve and the gun body were tight enough to seal against water flow,

the valve would not be able to rotate around a vertical axis and the device would not operate as disclosed.

Furthermore, Norman teaches that the valve 82 will be maintained only in the two positions shown in FIGS. 3A and 3B, by use of a conventional detent system. (Norman, col. 3, lines 57 to 61.) There is no teaching that Norman's valve 82 can be maintained in any position other than the two positions shown and described.

Conclusion concerning valve structure limitation in the present claims

The examiner has the burden of proving that the Norman valve will block the first and second liquids when placed in the "in between" position. *Electro Med. Sys. S.A. v. Cooper Life Sciences*, 34 F.3d 1048, 1052 (Fed. Cir. 1994).

The examiner is improperly attempting to reconstruct the Norman reference to operate like appellant's device using appellant's own teachings rather than any teaching found in the reference.

The examiner is also improperly assuming that the Norman valve would block both liquids if it were positioned between the two discrete positions identified in the reference. No proof is offered that such blocking will occur. All of the evidence from Norman points to an opposite conclusion.

The fact that something may be capable of functioning in a certain way is insufficient to find inherency. Inherency is not shown by probabilities or possibilities. *In re Robertson,* 169 F. 3d 743, 745 (Fed. Cir. 1999).

Claim limitation - The cartridge orientation means gravity acts on the liquid

The second set of limitations found in claim 1 and not found in Norman is the language that the "cartridge containing a first liquid...(is) oriented such that gravity exerts a downward force on the first liquid...." These limitations, relating to the physical orientation and the

functional operation of the cartridge to facilitate liquid flow from the cartridge, are not disclosed in the Norman reference. The orientation limitation is of significant consequence in devices of the present invention since it assists liquid flow while doing away with the prior art pickup tubes and also with the check valves at the bottom of the tubes. Norman teaches a downwardly hanging cartridge having a pickup tube that could not enable liquid flow on a gravity feed basis.

The examiner contends that the language of limitation is immaterial because all things on Earth are subject to gravity. However, in Norman the force of gravity is something to be overcome and this is done by the pickup tube 34 and a sufficient "vacuum" in the valve 82. There is no teaching in Norman that by placing the cartridge in a new orientation, the force of gravity may be used to help the operative function of the apparatus.

Conclusion concerning the gravity feed limitations

The idea of interpreting a claim broadly as the examiner has done, does not translate into a license to ignore structural and functional limitations of the claim, nor to use hindsight reconstruction to modify the structure and the operative functions of the device disclosed in the cited reference.

Claims 2-5, 8, 9,11,12 and 14-17 are all dependant from claim 1 and are all allowable if claim 1 is allowable.

Claim limitation - The metering orifice is located in the sprayer body

In claim 4, there is the further limitation that "the metering orifice is disposed in the sprayer body." The examiner contends that inlet port 116 in Norman "inherently meters the liquid in cartridge 10 because it has a finite size." Norman does not teach metering in the sprayer body. To the contrary, Norman specifically refers to the valve 40 as being a metering valve. (Norman, col. 2, lines 37 to 39.) As contended above, the fact that something may be capable of functioning in a certain way is insufficient to find inherency.

Claim limitation - The spray nozzle is rotatably adjustable

In claim 9, there is the additional limitation that the spraying device includes a "rotatably adjustable" spray nozzle. It is contended that this means to one skilled in the art that the nozzle is rotatably adjustable in relation to the spraying device. This limitation is not found in Norman. The examiner contends that the entire device "can be rotated" to achieve a different spray pattern. Such a claim interpretation would not be so understood by one skilled in the art. Thus, this claim limitation also is not found in the Norman device.

Claim limitation - The cartridge functions by squeezing the cartridge in an inverted position

In claim 11, there is the further limitation that the cartridge functions apart from the spraying device "by squeezing the cartridge in an inverted position." This limitation is not found in the Norman device which if disconnected and inverted and then squeezed will not operate because physics dictates that the squeezing force on the liquid will be directly transmitted to the ball 44 through the orifice 50 and the ball will be pushed up against the bottom end of the tube 34 to block the tube's lower opening preventing the flow of any liquid.

To correct a previous appellant misstatement, appellant was mistaken earlier when it was said that the Norman cartridge would work if squeezed when completely full. In fact, the squeezing force will be transmitted more efficiently when the cartridge is completely full so as to quickly seal the tube. The examiner is mistaken in the comparison of the forces on the ball provided by a squeeze plus gravity (the cartridge is inverted) against the force provided by the lower pressure (the so-called "vacuum") caused by the water flowing from the channel narrow portion 114 to the channel wide portion 118. To operate correctly when the cartridge is upright, the vacuum must be able to lift the ball away from the orifice 50 but not be so great as to lift the ball high enough to block the bottom end of the tube. Thus, the vacuum results in a relatively small force not at all comparable to that of a squeezing force.

Claim limitation - The cartridge is kept sealed

In claim 12 there is the added limitation that "the cartridge includes a check valve for keeping the cartridge sealed." The check valve 40 in Norman is structured to prevent liquid in the conduit 80 flowing down the tube and entering the cartridge. (Norman, col. 4, lines 37 to 45.) However, it is noted that tipping the Norman cartridge partially but without squeezing the cartridge wall may allow some flow of liquid through the tube even when there is no "draw" pressure from flowing water through the channel portions 114, 118. The teaching of Norman is that a seal occurs only when water is pushed down the tube 34 due to a higher pressure at the top of the tube than at the bottom of the tube. There is no proof that the ball 44 seals at any other time or under any other conditions.

Claim limitation - The cartridge includes a threaded closure

Claim 16 includes the further limitation of the cartridge having a "secondary threaded closure." The examiner contends that Norman shows a cartridge neck 24 having a flange 22 and "threads" in FIGS. 1, 2A and 2B. Appellant contends that the wavy features above the flange 22 are not threads but beads to allow a cap to snap-on the cartridge. If the wavy features were a thread or threads they would have been offset in the sectional views shown as FIGS. 1, 2A and 2B. Nowhere does Norman describe the wavy features. Hence, there is no teaching or disclosure of threads included in the Norman cartridge.

III. Claims 19-21 and 23-25--REJECTED UNDER 35 U.S.C. 102

Claim limitation - The valve structure has three discrete positions

Claim 19 has two sets of limitations not disclosed in the cited Norman reference. The first set of limitations including the three position valve structure and its functions have been discussed above and are incorporated here by reference. The valve structure of Norman has only

two positions and does not include the limitations of the claim inherently because being possibly capable of functioning in a certain way is insufficient to support an inherency rejection.

Claim limitation - There is no dip tube

The second set of limitations in Claim 19 is the absence of a dip tube in the structure and operation of the spraying device, namely, "the valve structure (by a reduced pressure)...draws the first liquid out of the cartridge and into the valve structure without the need for a dip tube...." The Norman device teaches a spray system operating with a dip tube, the pickup tube 34, Fig. 1. The examiner contends that appellant's claim 19 "does not preclude" having a dip tube because the claim language states "the valve structure allowing...." Appellant disagrees and contends that the claim language including the absence of the dip tube, is a material limitation and is a limitation not found in Norman.

The examiner confuses the section 102 rejection by also stating that the Norman device will operate without a dip tube "when the cartridge (10) is completely full." However, there is no teaching that Norman's device functions in this way and there is no support cited that the Norman device is even capable of such an operation. The prior art is replete with liquid containing cartridges hanging downwardly from a sprayer and all have pickup tubes. This evidence strongly suggests that one skilled in the art would consider a pickup tube to be a necessary element and not an optional one as the examiner indicates.

Conclusion concerning the dip tube issue

Regardless of the above contentions the examiner has the burden of proving his statement that the Norman device will operate without a dip tube. Otherwise, the examiner is again making an inherency argument based on unsupported speculation. "Inherency may not be established by probabilities or possibilities." *In re Robertson,* 169 F.3d 743, 745 (Fed. Cir. 1999) (quoting

Continental Can Co., v. Monsanto Co., 948 F.2d 1264, 1269 (Fed. Cir. 1991) which in turn quotes *In re Oelrich,* 666 F.2d 578, 581 (C.C.P.A. 1981)).

If independent claim 19 is allowable, dependent claims 20, 21 and 23-25 are also allowable.

Claim limitation - The metering orifice is in the sprayer body

Claim 20, like claim 4, includes the further limitation that the metering orifice is disposed in the sprayer body. Like the rejection of claim 4, the examiner contends that the inlet port 116 "inherently meters". Norman however, does teach metering in the sprayer body; instead Norman specifically refers to the valve 40 as a metering valve. (Norman, col. 2, lines 37 to 39.) As contended above, the fact that something may be capable of functioning in a certain way is insufficient for a finding of inherency.

Claim limitation - The spray nozzle is rotatably adjustable

Claim 23, like claim 9, includes the additional limitation that the spraying device has a "rotatably adjustable" spray nozzle. It is contended that this means to one skilled in the art that the nozzle is rotatably adjustable in relation to the spraying device. This limitation is not found in Norman. The examiner contends that the entire device "can be rotated" to achieve a different spray pattern. Such a claim interpretation would not reasonably be so understood by one skilled in the art. Thus, the additional claim limitation is not found in the Norman device.

Claim limitation - The cartridge functions by squeezing the cartridge in an inverted position

Claim 24, like claim 11, has the further limitation that the cartridge functions apart from the spraying device "by squeezing the cartridge in an inverted position." This limitation is not found in the Norman device which if disconnected and inverted and then squeezed will not operate because the squeezing force on the liquid will be directly transmitted to the ball 44 through the orifice 50 and the ball will be pushed up against the bottom end of the tube 34 to

block the tube's lower opening. As pointed out in relation to claim 11, the examiner is mistaken in his comparison of the forces provided by a squeeze plus gravity against the force provided by the Bernoulli effect of water moving from a narrow channel to a wider channel.

IV. Claims 27-29 and 31-33--REJECTED UNDER U.S.C. 102

Claim limitations - the cartridge orientation means gravity acts on the liquid and there is no dip tube

Claim 27 has two sets of limitations not disclosed in Norman including the orientation of the cartridge to facilitate flow from the cartridge and the lack of a dip tube. The examiner refers back to the contentions made relating to claims 1 and 19 and appellant also refers back to the relevant comments stated hereinabove regarding claims 1 and 19 and incorporates those comments here by reference.

First, the cartridge orientation helps liquid flow from the cartridge, and the orientation does away with the pickup tube and also the check valve at the bottom of the tube. This limitation is not found in Norman. Second, the absence of the dip tube is a limitation to the claim and this limitation is not found in Norman. Third, the examiner 's statement that Norman will work without a pickup tube is unsupported speculation.

Claims 28, 29 and 31-33 are dependent from claim 27 and would be allowable if claim 27 is allowable.

Claim limitation -The metering orifice is in the sprayer body

Claim 28, like claims 4 and 20, includes the limitation that the metering orifice is disposed in the sprayer body. The examiner contends that the inlet port 116 "inherently meters". Norman however, does not teach metering in the sprayer body; instead Norman specifically refers to the valve 40 as the metering valve. As contended above, the fact that something may be capable of functioning in a certain way is insufficient for a finding of inherency.

Claim limitation - The cartridge functions by squeezing the cartridge in an inverted position

Claim 31, like claims 11 and 24, has the further limitation that the cartridge functions apart from the spraying device "by squeezing the cartridge in an inverted position." This limitation is not found in the Norman device which if disconnected and inverted and then squeezed will fail to operate because the squeezing force on the liquid will be directly transmitted to the ball 44 through the orifice 50 and the ball will be pushed up against the bottom end of the tube 34 to block the tube's lower opening.

Thus, Norman does not have this additional limitation.

Claim limitation -The valve structure has three discrete positions

Claim 33, like claim 1, has the limitations of a "valve structure...(movable) between at least three discrete positions including. . .a third position blocking the first and second liquids from flowing through the valve structure...."

As explained above and incorporated here, the Norman valve 82 is structured to move between only two discrete positions. The first position is shown in Norman's FIG. 3A where both liquids flow through the valve; the second position is shown in FIG. 3B where only the liquid from the conduits 74, 80 flows through the valve. There is no teaching of a third position for the valve 82 where the valve blocks the flow of both the first and second liquids. A separate trigger mechanism 76 opens and closes the water flow through the conduit 74.

Norman does not teach that his valve 82 blocks water flow, contrary to the examiner's contention that such a third blocking position is inherent because the valve 82 can be stopped between the two positions Norman specifically discloses. A position between those shown in Norman's FIGS. 3A and 3B is not taught by Norman, and there is no teaching that when in such an "in between" position the valve would block the first and second liquids. Norman specifically teaches that the water flowing in conduit 74 is blocked by the trigger mechanism 76 which

operates a seal plunger. Furthermore, Norman teaches that the valve 82 will be maintained in only the two specified positions, the positions shown in FIGS. 3A and 3B, by use of a conventional detent system. There is no teaching that Norman's valve 82 can even be maintained in any position other than the two positions shown and described.

V. Claims 6, 10, 13, 18, 22 AND 26-30--REJECTED UNDER 35 U.S.C. 103

Appellant relies upon the contentions in its Appellant's Appeal Brief, pages 12-18.

It is noted that the examiner has not responded to appellant's contention that when an independent claim, such as claims 1, 19 and 27, is non-obvious then all depending claims are non-obvious. None of the claims 1, 19 and 27 were rejected under Section 103.

It is also noted, that all of the section 103 rejections are based on Norman alone or in combination with another reference. However, based upon appellant's contentions hereinabove regarding the rejections under section 102 of claims 1, 19 and 27, Norman does not contain all of the limitations of any of the rejected claims and the examiner does not contend that the limitations, absent from Norman, are found in other cited references.

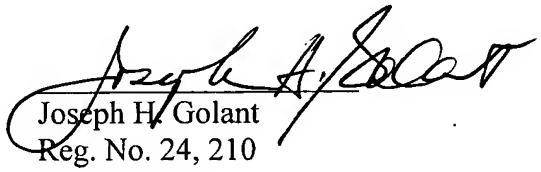
Under section 103, the reference or the combination of references must include all of the limitations of the rejected claims. *Al Site Corp. v. VSI Intern., Inc.*, 174 F. 3d 1308, 1324 (Fed Cir. 1999). Norman alone and in all of the cited combinations fail to meet this requirement. Thus, the examiner has not met his burden of making a proper rejection.

VI. Appellant's Request

In view of the foregoing, it is submitted that the rejections of claims 1-6 and 8-33 under both 35 U.S.C. 102 and 35 U.S.C. 103 are not well taken and the Board is respectfully requested to reverse the rejections and allow the application to pass to issue.

Dated: December 15, 2005

Respectfully submitted,



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